

RELIABILITY MONITOR REPORT  
FOR

**PLCC Package**

**Dallas Semiconductor**

4401 South Beltwood Parkway  
Dallas, TX 75244-3292

This Report was prepared by  
Dallas Semiconductor Reliability Engineering

**Summary:**

The data in the tables that follow was generated as the result of an on-going Package Reliability Monitor. The assemblies covered by this package monitor are:

ASSY SITE	PINS	PACKAGE		
ATK (Amkor, K)	32	PLCC	ATK (Amkor, K)	68 PLCC
ATP (Amkor, PI)	28	PLCC	ATP (Amkor, PI)	32 PLCC
ATP (Amkor, PI)	44	PLCC	ATP (Amkor, PI)	52 PLCC
ATP (Amkor, PI)	68	PLCC	ATP (Amkor, PI)	28 PLCC (Pb-Free)
ATP (Amkor, PI)	44	PLCC (Pb-Free)	ATP (Amkor, PI)	52 PLCC (Pb-Free)
ATP (Amkor, PI)	68	PLCC (Pb-Free)	OSEP	28 PLCC
OSEP	44	PLCC	OSEP	52 PLCC
OSEP	44	PLCC (Pb-Free)		

The calculated failure rate for this assembly is:

**FAILURE RATE: MTTF (YRS): 9048 FITS: 12.6**

The parameters used to calculate this failure rate are as follows:

**Cf: 60% Ea: 0.7 Tu: 25 °C**

The reliability data follows. At the start of this data is a description of the assembly vehicle used to generate this reliability data. The next section is the detailed reliability data for each stress. The reliability data section includes the latest data available. This report covers data between 7/1/2006 and 6/30/2007.

**Assembly Information:**

Package Type: PLCC 650x650x3.87  
 Flammability: UL 94-V0  
 Moisture Sensitivity (JEDEC J-STD20A) Level 3  
 Date Code Range: 0642 to 0642

**OPERATING LIFE**

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
HIGH TEMP OP LIFE	0642	DS87C520	125C, 5.5 VOLTS	1000 HRS	77	0	
<b>Total:</b>						<b>0</b>	

**PRECONDITIONING LEVEL 3**

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
STORAGE LIFE	0642	DS87C520	125C	24 HRS	229		
MOISTURE SOAK			30C/60% R.H.	192 HRS	229		
CONVECTION REFLOW			220C +5/-0C	3 PASS	229	0	
STORAGE LIFE	0642	DS87C520	125C	48 HRS	238		
MOISTURE SOAK			30C/60% R.H.	192 HRS	238		
CONVECTION REFLOW			220C +5/-0C	3 PASS	238	0	
<b>Total:</b>						<b>0</b>	

**STORAGE LIFE**

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
STORAGE LIFE	0642	DS87C520	150C	1000 HRS	77	0	
<b>Total:</b>						<b>0</b>	

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**TEMPERATURE CYCLE**

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
TEMP CYCLE	0642	DS87C520	-55C TO 125C	1000 CYS	77	0	
				<b>Total:</b>		<b>0</b>	

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**TEMPERATURE HUMIDITY BIAS**

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
HAST	0642	DS87C520	130C, 85%R.H.,5.5V	96 HRS	77	0	
HAST	0642	DS87C520	130C, 85%R.H.,5.5V	96 HRS	117	0	
HAST	0642	DS87C520	130C, 85%R.H.,5.5V	96 HRS	117	0	
				<b>Total:</b>		<b>0</b>	

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**UNBIASED MOISTURE RESISTANCE**

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
AUTOCLAVE	0642	DS87C520	121C, 2 ATM STEAM, UNBIASED	168 HRS	75	0	
				<b>Total:</b>		<b>0</b>	

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